

## Tessellation 30

Suite: Tessellation Party!

by Arya Akhavan (November 2013)

Angles for R.I. = 1.520

66 + 14 girdles = 80 facets

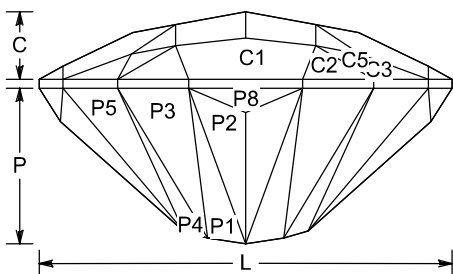
2-fold, mirror-image symmetry

80 index

L/W = 1.337

P/W = 0.503 C/W = 0.218

Vol./W<sup>3</sup> = 0.378



### PAVILION

P1	43.90°	02-38-42-78	Cut to centerpoint.
P2	44.45°	01-39-41-79	Meet at culet.
G1	90.00°	80-40	Set stone width.
G2	90.00°	03-37-43-77	Meet P1, P2, G1
P3	44.07°	03-37-43-77	Level girdle.
P4	43.36°	04-36-44-76	Meet P1, P3
G3	90.00°	08-32-48-72	Level girdle.
P5	43.57°	08-32-48-72	Meet G2, P3, P4, G3
P6	43.75°	15-25-55-65	Meet P4, P5
G4	90.00°	17-23-57-63	Meet G3, P5, P6
P7	58.77°	17-23-57-63	Level girdle.
P8	50.00°	80-40	Level girdle.

### CROWN

C1	58.92°	80-40	Set girdle width.
C2	63.65°	03-37-43-77	Level girdle.
C3	48.45°	08-32-48-72	Level girdle.
C4	36.93°	17-23-57-63	Level girdle.
C5	48.99°	06-34-46-74	Meet G2, G3, C2, C3
C6	29.26°	20-60	Meet G4, C4
C7	24.63°	15-25-55-65	Meet G3, G4, C3, C4
C8	25.67°	20-60	Meet C4, C6, C7
C9	21.62°	10-30-50-70	Meet C1, C2, C5; C3, C5, C7
C10	16.42°	04-36-44-76	Meet C1, C2, C5, C9
C11	10.32°	20-60	Meet C7, C8; C7, C9, C10

Here's another pentagonal Penrose tiling. I was trying to get another pentagon to appear where C9 is, but I couldn't manage to figure it out. Another cool science fact - 5-fold quasicrystals (pentagonal crystals) only form due to quantum chemistry! The pavilion might be a little annoying to cut, but it's helping prevent a gigantic bowtie. Works in materials from feldspar to GGG (RI = 1.52 - 2.03) with no changes, but I prefer zircons.

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